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Justyna Zajac
(Signature of person mailing)
Justyna Zajac

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: John Michael :
Humphrey, et al.

APPLICATION NO.: 10/705,466

: Examiner:
Davis, Brian J.

FILING DATE: November 10, 2003

: Group Art Unit: 1621

TITLE: PROCESS FOR CONVERTING A :
CIS-TRANS MIXTURE OF SUBSTITUTED
BENZYLIDENE AMINES INTO THE PURE CIS
ISOMER

Certificate
MAY 23 2005
of Correction

Commissioner for Patents
Alexandria, VA 22313-1450

Attention of Certificate of Correction Branch:

Request for Certificate of Correction

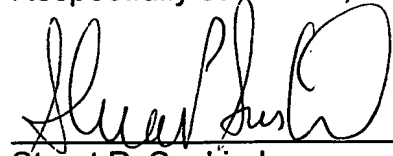
Applicant hereby requests a Certificate of Correction under 37 CFR 1.323 for a mistake which was not the fault of the office. The mistake was of a minor character and was made in good faith.

Applicant inadvertently failed to include a replacement figure incorporating the desired change in structure I of claim 1. There is no new matter as the desired change is incorporated as structure I of currently amended claim 1 (attached).

In compliance with MPEP Chapter 1485, Applicant hereby submits the replacement figure correction on PTO Form SB/44.

The Commissioner is hereby authorized to change normal fees for
Certificate of Correction to Account No. 16-1445.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Stuart P. Suskind", written over a horizontal line.

Stuart P. Suskind
Registration No. 40,192

Date: _____

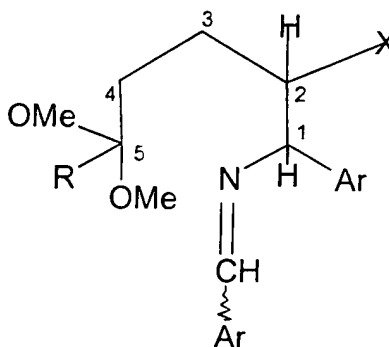
May 13, 2008

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

Page 1 of 1

PATENT NO. : 6,878,848
APPLICATION NO.: 10/705,466
ISSUE DATE : April 12, 2005
INVENTOR(S) : John Michael Humphrey, et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:



MAILING ADDRESS OF SENDER (Please do not use customer number below):

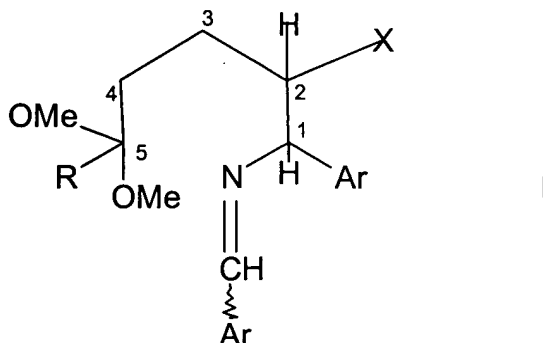
This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



Amendment to the Claims

1. (currently amended) A process for preparing a pure cis isomer from a mixture of cis-trans isomers of formula



wherein Ar is phenyl or naphthyl optionally mono-or disubstituted by C₁₋₅ alkyl, C₁₋₅ alkoxy, halogen, trifluoromethyl, ester or amido; and R is C₁₋₅ alkyl;

wherein X is a strongly electron withdrawing moiety selected from the group consisting of nitro, nitroso, nitrilo, isocyanato, sulfonyl, carbonyl and nitro substituted aryl;

comprising the steps of:

- dispersing a mixture of cis and trans isomers of formula I in an inert solvent wherein said cis isomer is substantially less soluble than said trans isomer;
- heating said dispersion to completely dissolve said trans isomer and to dissolve at least 10% by weight of the cis isomers;
- maintaining said heating step to allow interconversion of said cis and trans isomers;
- cooling said mixture thereby crystallizing the cis isomer; and
- separating said crystalline cis isomer from said solvent.

2. (currently amended) The process according to claim 1 wherein X is nitro. ~~said formula I is comprised of a chiral carbon atom C₄ and an adjacent chiral carbon atom C₂; and~~

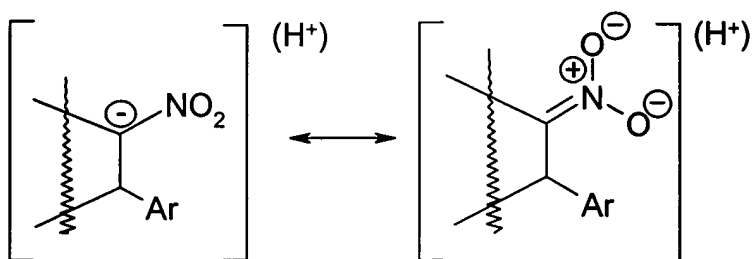
~~wherein C₂ is attached to a hydrogen atom and to a strongly electron withdrawing group selected from the group consisting of nitro, nitroso, nitrile, cyanato, isocyanato, nitro substituted aryl, sulfonyl, and carbonyl; and~~

~~wherein at least one atom or group attached to C₄ is different from the atoms or groups attached to C₂.~~

3. (original) The process according to claim 1 wherein said interconversion of the cis and trans isomers involves bond cleavage and reforming at carbon atom C₂.

4. (original) The process of claim 3 wherein said bond cleavage and reforming takes place at the bond between carbon atom C₂ and its attached hydrogen atom.

5. (currently amended) The process of claim 4 wherein said bond cleavage results in an achiral transition compound having resonance formula;



6. (original) The process of claim 5 wherein said cis and trans isomers in said solvent interconvert through said transition compound.

7. (original) The process of claim 1 wherein said crystallization of the cis isomer results in a further interconversion of the dissolved trans isomer into the cis isomer.

8. (original) The process according to claim 1 wherein said dispersed cis and trans isomer mixture is comprised of solid cis and trans isomers in a weight ratio of about 1:1.

9. (original) The process according to claim 4 wherein at least a portion of said cis and trans isomers are present in a solution equilibrium of said cis and trans isomer in a ratio of 3:1.

10. (original) The process according to claim 1 wherein said mixture is heated to a temperature range of about 40 °C to about 55 °C.

11. (original) The process according to claim 10 wherein said mixture is heated to a temperature range of about 40°C to about 45°C.

12. (original) The process according to claim 1 wherein said heating step continues for a period of at least one hour.

13. (original) The process of claim 10 wherein said heating step continues for a period of about 4 to about 10 hours.

14. (original) The process of claim 1 wherein said mixture is cooled to a temperature of about 0 °C to about 35 °C.

15. (currently amended) The process according to claim 1 wherein R is $\text{C}_4\text{-C}_6$ alkyl, C₁-C₃ alkyl.

16. (original) The process according to claim 1 wherein Ar is phenyl.

17. (original) The process according to claim 1 wherein said compound of formula I is benzylidene-(5,5-dimethoxy-2-nitro-1-phenyl-heptyl)-amine.

18. (original) The process according to claim 1 wherein said inert solvent is selected from the group consisting of an alcohol having formula R^1OH , a mixture of alcohols having formula R^1OH , and a mixture of water with one or more alcohols of formula R^1OH wherein R^1 is C_1 - C_5 alkyl.

19. (original) The process according to claim 18 wherein said solvent is methanol.

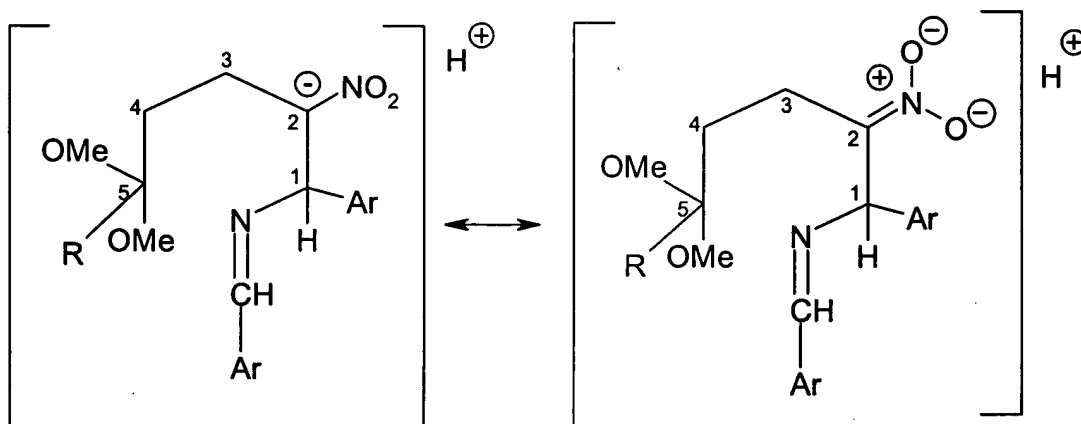
20. (original) The process according to claim 1 wherein said mixture is comprised of four stereoisomers.

21. (original) The process according to claim 20 wherein said four stereoisomers are comprised of two pair of enantiomers.

22. (currently amended) The process according to claim ~~24~~ 21 wherein a first pair of enantiomers consists of a cis isomer and its mirror image and a second pair of enantiomers consists of a trans isomer and its mirror image.

23. (original) The process of claim 22 wherein said cis isomer and said trans isomer are diastereoisomers.

24. (currently amended) The process according to claim 1 wherein said cis and trans isomers are interconverted through transition compounds having the resonance formulas,



Remarks

In the Office Action, the Examiner noted that claims 1-24 are pending in the application, and that claims 2, 5, 15, 22, 24 are objected to.

By this amendment objected to claims 2, 5, 15, 22 and 24 have been amended. Additionally, independent claim 1, originally allowed, has been amended so that claim 2 in its amended form is properly dependent on claim 1.

Claim 2 is objected to under 37 CFR 1.75 c as being of improper dependent form for failing to further limit the subject matter of a previous claim. Thus, claim 1 is limited to the NO₂ substitution on C₂ while claim 2 which depends from claim 1, expands the permissible substituents.

Amended claim 1 expands the scope of permissible substituents by reciting a Markush group of strongly electron withdrawing substituents or chemical moieties represented by X in formula I.

Amended claim 2 is limited to the NO₂ substituent. There is no new matter as the same Markush group is found in original claim 2.

Amended claim 2 is properly dependent on claim 1 by virtue of the limitations it imposes on the scope of permissible electron withdrawing substituents.

Amended claim 5 and 24 contain a period at the end of the claim in compliance with MPEP 608.01 (m).

Claim 15 has been amended so that it imposes a further limit on the subject matter of claim 1.

Claim 22 has been amended to properly depend from claim 21.

Conclusion

For the reasons stated above, applicant respectfully submits that the application is in condition for allowance and that action is earnestly solicited.

Respectfully submitted,

Date: _____

Stuart P. Suskind
Registration No. 40,192